CLAIMS

1 – Process for the purification of aqueous peroxygen solutions comprising the treatment of an aqueous peroxygen solution with (a) at least one membrane purification step, (b) optionally at least one ion exchange purification step, (c) optionally at least one dilution step, and (d) at least one other purification step, all of which can be conducted in any sequence.

2 – Process according to claim 1 in which the aqueous peroxygen solution is a hydrogen peroxide solution.

3 – Process according to claim 2, in which the hydrogen peroxide solution has a concentration before treatment of 5 to 70 % by weight of hydrogen peroxide.

4 – Process according to any one of the claims 1 to 3, in which the membrane is a reverse osmosis type membrane.

5 – Process according to any one of the claims 1 to 4, in which the other purification step is chosen from exposure to ultraviolet light, exposure to ozone, contact with at least one adsorption resin, or any combination thereof.

6 – Process according to any one of the claims 1 to 5, in which the treatment comprises, in the following sequence, (1) a membrane purification step, (2) a purification step chosen from exposure to ultraviolet light and/or exposure to ozone, (3) a dilution step, (4) an optional contact with an adsorption resin, (5) an optional ion exchange purification step.

7 – Process according to claim 6, in which the treatment additionally contains (6) a second optional ion exchange purification step, and (7) a purification step chosen from exposure to ultraviolet light and/or exposure to ozone.

8 – Process according to any one of the claims 1 to 5, in which the treatment comprises, in the following sequence, (1) a membrane purification step, (2) a treatment chosen from exposure to ultraviolet right, exposure to ozone, and/or contact with at least one adsorption resin, (3) optionally one or more other treatments.

9 – Process according to claim 8, in which the treatment comprises, in the following sequence, (1) a membrane purification step, (2) exposure to ultraviolet light, and (3) contact with at least one adsorption resin.

10 – Aqueous peroxygen solutions obtainable by the process of any one of the claims 1 to 9 and containing less than 1 mg of Total Organic Carbon (TOC) per kg peroxygen solution.

11 – Aqueous peroxygen solutions according to claim 10 containing less than 0,1 mg TOC per kg peroxygen solution.

12 – Use of the aqueous solutions according to claim 10 or 11 in the manufacture of microelectronic components and semiconductors.